

Cracklin' Static

AUGUST 2019 Edition



Breakfast Meeting: Sat, August 3rd

Boomtown Casino Hotel
Events Center
I-80 at Exit 4 in Verdi

Breakfast Buffet – 7:30am - \$12
General Meeting – 8:00am

This month will be an open meeting, discussions as they arise.

SNARS NET on DMR – Tuesday 8pm
DMR Talk Group: 31328 SNARS

SNARS Treasury –as of 7-24-19

Operating	\$7,655
Savings	\$8,586
Self Insurance	\$5,508
PayPal	\$913
Convention	\$4,412

Total	\$27,074
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SNARS Membership – ending 7-28-19

General	117	31%
Extra	132	34%
Technician	116	30%
Advanced	15	4%
No License	2	1%

SNARS Members	383	
ARRL Members	247	64%

President's Voice

President John Byerly, N7ROJ

Email: mtnlion@gmail.com



With NVCON and Field Day come and gone, it seems as if our events have been very successful for the members and the general amateur community. I would again like to say a huge THANK YOU to all our volunteers, presenters, VE test crew, instructors and everyone who attended. Your participation and volunteering made all of this possible. Tony, W7XM was instrumental as always in making the convention and all the pieces come together as one.



John Byerly, N7ROJ, President, SNARS, presents a certificate of appreciation to Tony Marcin, W7XM for work on NVCON

The board is considering a membership BBQ later in August where the members, volunteers, and their families could get together and just enjoy a day in the park. Maybe even bring some portable gear. We will discuss this at the next meeting, so think about coming out. It would be semi-pot-luck where the club would provide burgers, dogs, and buns, and the sides, condiments, plates etc would be brought by the people attending.

Thank you all again, and we will see you at the meeting!

73

N7ROJ/John



PO BOX 7727 Reno NV 89510
Yearly Dues: \$40.00 Individual • \$50.00 Family
775.453.4142 <http://snars.org>

2019 Officers

President.....John Byerly, N7ROJ
Vice-President.....Jim Shepherd, W6US
Treasurer.....Bill Jones, AE7OX
Secretary.....Anthony Marcin, W7XM
DirectorWes Vick, KG7QXE
DirectorJohn Miller N7JDM
DirectorBarry Bettman, K6ST

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KR7ENO Trustee Howie Holden, WB2AWQ
Control Operator Pat Sheehan, W7DED
Historian Jon Fox, KF7KTC
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DMR Net Manager Anthony Marcin, W7XM
Reno Ham Swap Vacant
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Recording Secretary.....Doug Edmondo, W7DBE

Cracklin Static Publication

Editor: Howie Holden **WB2AWQ** - holden7471@msn.com
Cracklin' Static is the Newsletter of, and sponsored by the Sierra Nevada Amateur Radio Society. Opinions expressed herein are those of the editors and contributors and should not be considered as official expressions of the Club Officers, Staff or Club Members, or as endorsements by same.

Material for publication may be edited to enhance readability or to save space. We reserve the right to use whatever font size, line spacing or other tools as may be required to publish this Newsletter. **Deadline for input to the newsletter is 1500 hours on the Sunday** prior to the 1st Saturday of each month.

SNARS Wide Area Linked System

147.030 + PL 123.0	Sparks, Fernley, Fallon	Online
147.210 + PL 100.0	Reno, Sparks	Online
147.150 + PL 123.0	Lake Tahoe, Truckee, Carson	Online
146.925 - PL 123.0	Lovelock, Fallon	Online
146.670 - PL 123.0	Winnemucca	Online
444.875 + PL 100.0	Yerington	Online
444.125 + PL 123.0	Reno Sparks	Offline

DMR Systems

444.925 + CC 1	Reno, Sparks	Online
444.825 + CC 1	Dayton, Fallon, Carson	Online
443.925 + CC 1	Lake Tahoe, Truckee, Carson	Online
443.950 + CC 1	Incline Village	Online
442.875 + CC 1	Sparks, Fernley, Fallon	Online
442.850 + CC 1	Downtown Reno	Online
441.950 + CC 1	Fallon, Fernley	Offline

Fusion Systems

146.610 - PL 123.0	Reno, Carson, Dayton	Online
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IRLP / EchoLink Systems

147.300 + PL 123.0	Reno, Sparks	Online
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Packet / APRS

145.050 - RNO	Reno, Carson, Dayton	Online
145.050 - ROSE	Lake Tahoe, Truckee, Carson	Online
144.390 - TOULON	Lovelock, Fallon	Online

Standalone Systems

147.390 + PL 100.0	Reno, Carson, Dayton	Online
443.075 + PL 123.0	Reno, Carson, Dayton	Online
927.0875 + PL 114.8	Reno, Carson, Dayton	Online

 Online  Offline  Not Linked

Thank you to our Sponsors/Supporters



Weekday on the SNARS Linked System

147.030 + PL 123 – Sparks/Fernley
 147.150 + PL123.0 – Lake Tahoe / Truckee
 147.210 + PL 100.0 - Reno
 444.875 + PL 100.0 - Yerington
 146.925 - 123.0 – Lovelock / Fallon
 146.67 – PL 123.0 - Winnemucca

Monday through Friday @ 12:00pm

Open to all amateur radio operators. A general informational net for the amateur radio community of Northern Nevada and Eastern California. Radio Checks and Questions are welcomed.

Nets on the SNARS Linked Systems

147.210 + 100.0 | 147.030 + 123.0 | 147.150 + 123.0
 147.670 – 123.0 | 146.925 – 123.0 | 444.875 + 100.0

ERC Net for NV and Northern CA	Monday @ 9:15pm
N. Western NV ARES Net	Thursday at 7:30pm
Northern Nevada Preppers Net	Wednesday @ 8:00PM
Hospital Net	Friday @ 10:00AM

Nets on IRLP (GSR) System

Repeater: 147.300 + 123.0

Amateur Radio Newslane	Monday - 8:00PM
Nevada Skywarn Net	Wednesday - 7:00pm
Nevada State ARES Net	Thursday - 7:00PM

Nets on Simplex/HF

Jefferson Noon Net	7.204 LSB	Daily - 12:00pm
6 Meter Net	50.350 USB	Tuesday – 8:00pm
2 Meter Week Signal	144.250 USB	Wednesday - 8:00PM
2 Meter Simplex Net	146.500 FM	Thursday – 8:00PM
10 Meter Net	28.350 USB	Sunday – 2:00PM

**SNARS Weekly DMR Net – Tuesdays
8:00PM**

SNARS Talk Group 31328

Open to Members and Guests. A general information net each week on DMR.

SNARS CALENDAR

**Ham Radio Night at the REOC Wednesday, August 7
6 PM Washoe REOC 5195 Spectrum Blvd, Reno NV**

**SNARS Board Meeting Wednesday August 14, 6 PM
Chin-Chin 222 Los Altos Pkwy, Sparks NV**

**One Day Ham Review and Exam Saturday, August 17, 8 AM
SHARP!!! Exam begins at 1 PM. Washoe REOC 5195 Spectrum Blvd, Reno NV. MUST PRE-REGISTER, see
www.snars.org/oneday for details.**

**Reno QRP Monthly Meeting Monday, August 19, 11:30am –
12:30pm Alamo Casino Truck Stop in Sparks
Contact Gordon WB6JAD for more information**

**Next SNARS Breakfast Meeting – Saturday Sept 7, 8 AM
Boomtown Casino Hotel Events Center I-80 at Exit 4 Verdi**

WELCOME NEW MEMBERS

Kent	Hawthorne	KJ7GWF
Darryl	Howcroft	KJ7HJX
Robert	Lyons	KC6ZTB
Donna	Dorsey	KM6LFS
Caleb	Dorsey	KM6LFP
Bill	Howe	K7WHH
Steven	Biczak	N7ITE
Bruce	Paulin	KE7JMQ
Greg	Treece	KA9WKK
John	Phillips	KL7RIP
John	Shepherd	AD6NR
Ron	Wilder	K6RON
Tom	Good	KF6TAG
Tristan	Willar	KJ7GY

THE NAME OF THE GAME

Jim Shepherd, W6US nvjims@gmail.com

FEEDLINE

Sometimes not a lot of thought goes into what happens between the output connector of your radio and the antenna. You just hook it together and get it on the air.

Virtually all ham radios are designed to be hooked to a 50 ohm impedance load. Not everything out there has a true 50 ohm impedance at the desired frequency. This creates problems as it causes power to be reflected back to the transmitter. Most modern radios can handle a 2:1 mismatch or less and they have circuits to reduce power if a larger mismatch is sensed.

The best thing to do is to adjust the antenna so it does show 50 ohms and resonance at the desired frequency. With wire antennas, shortening or lengthening may be needed or positioning it away from other objects or the ground. This is fine for the single frequency, but the further you move from that frequency, the more out of tune it will go.

To get more bandwidth or to work on multiple bands, an Antenna Tuner is inserted into the system. It really does not tune the antenna, but it matches its output to the antenna system impedance and its input to the 50 ohm impedance of the radio. If it is mounted at the antenna and 50 ohm coax is connected back to the radio, you will maximize the performance of the system. But the tuner is usually in the shack either connected to the radio or built into the radio... That means that the impedance coming out of the tuner is no longer the nice 50 ohms that your normal coax likes.

This isn't a problem if your coax is electrically $\frac{1}{2}$ wavelength long or multiples thereof at the desired frequency, but that is not the normal situation. You now will start losing power from the impedance difference, and, of course, with the mismatch with the antenna. This loss will show up as heat in the tuner and coax, and lower signals at the distant station.

So now you change to a balanced feed system like Ladder Line, Window Line or Twin Lead. Window line has an impedance of 450 ohms which can be easily matched with a 9:1 balun to a 50 ohm source. At the antenna end, another rf transformer can convert the 450 ohm to the impedance of the antenna or, in the case of dipoles, directly to the legs of the dipole as is done in the popular G5RV antenna. In this case, the legs of the dipole, and some of the length of the Window Line tend to be resonant at a lot of different frequencies. Also, the window line tends to present less loss at the HF frequencies.

Like the window line on the G5RV, some antenna designs may try to use the shield on the coax as part of the antenna, and this has the potential to bring some RF back into the shack which will appear on the outside of all the coax connected parts of your radio system and many of the internal parts... This causes all sorts of problems including the potential for RF burns. A choke is used at the antenna to prevent these common mode currents from coming down and biting you. A second choke should be used at the shack end of the coax to eliminate anything picked up on the way in including noise. This may be as simple as a number of turns of coax in a small loop or the addition of some ferrite beads to the outside of the coax. Good grounding helps, however the length of your ground wires is important as they can end up being resonant and actually make things worse. All sorts of 'interesting' things can happen if your ground line is some multiple of $\frac{1}{4}$ wavelength especially if you are using a single wire or a vertical.

There are other things that may be in the circuit. During Field Day we used a couple of filters to minimize interference between the stations. These filters are designed to be 50 ohms in and out, and they really need to be put between the transmitter and an outboard tuner if they are used with an antenna system that is not 50 ohms. If they are used after the tuner, they will present a high swr load on the system and could be damaged or cause damage if your radio does not have SWR protection. Power meters can also be a problem if they are used after the tuner for the same reason. The built in power meters on some tuners are usually on the input circuit side so they are always near 50 ohms.

Finally, there is attenuation to both transmit and receive by using too long of the wrong feedline. A hundred feet of RG-58 on your UHF DMR handheld radio will decrease signals by about 12 dB – your 5 watt radio is now effectively a 0.3 watt radio and the receiver performance has a similar reduction. If you used a hundred feet of $\frac{1}{2}$ " hardline, that would only drop you about 1.3 dB which would make it 3.7 watts. On the 160 meter band, attenuation for either coax would be very low and only the power handling ability would be the deciding factor. Also, the RG58 weighs a whole lot less than the $\frac{1}{2}$ " hardline which will allow it to be connected to an end supported center fed wire antenna with less tension and droop than the heavy stuff. Pay attention to the connectors, poorly installed or multiple inter-series connectors will also cause a loss of signal.

'Tuning up' your connections from your radio to your antenna can improve your signal. Take a look at your system and see where you can make improvements.

SNARS LOGO ITEMS

This year we are celebrating our 50th year by providing many ways to commemorate this occasion by imprinting our 50th



Stickers \$1.00 Each



16oz Coffee Mugs \$8.00



Hats \$10.00



Club Badge \$15.00

Order at

<http://snars.org/store/badge-order>

Items are available at the monthly meetings, events or online (coming soon) <http://snars.org/store>

MIKE'S MISSIVES CHAPTER FORTY FIVE

Mike Katz, N7MSK

Morse Code Is 175 Years Old and Still as Useful as Ever (Part 2)

There is a thriving community of amateur radio operators who treasure Morse code, too. Among amateur radio operators, Morse code is a cherished tradition tracing back to the earliest days of radio. Some of them may have begun in the Boy Scouts, which has made learning Morse variably optional or required over the years. The Federal Communications Commission used to require all licensed amateur radio operators to demonstrate proficiency in Morse code, but that ended in 2007. The FCC does still issue commercial licenses that require Morse proficiency, but no jobs require it anymore.

Blinking Morse

Because its signals are so simple—on or off, long or short—Morse code can also be used by flashing lights. Many navies around the world use blinker lights to communicate from ship to ship when they don't want to use radios or when radio equipment breaks down. The U.S. Navy is actually testing a system that would let a user type words and convert it to blinker light. A receiver would read the flashes and convert it back to text.

Skills learned in the military helped an injured man communicate with his wife across a rocky beach using only his flashlight in 2017.

Other Morse messages

Perhaps the most notable modern use of Morse code was by Navy pilot Jeremiah Denton, while he was a prisoner of war in Vietnam. In 1966, about one year into a nearly eight-year imprisonment, Denton was forced by his North Vietnamese captors to participate in a video interview about his treatment. While the camera focused on his face, he blinked the Morse code symbols for "torture," confirming for the first time U.S. fears about the treatment of service members held captive in North Vietnam.

Blinking Morse code is slow, but has also helped people with medical conditions that prevent them from speaking or communicating in other ways. A number of devices—including iPhones and Android smartphones—can be set up to accept Morse code input from people with limited motor skills. (*Google Morse 2000, or adaptive Morse code, or visit this link: <https://bgr.com/2018/07/12/gboard-ios-morse-code-typing-now-available/>ed*)

There are still many ways people can learn Morse code, and practice using it, even online. In emergency situations, it can be the only mode of communications that will get through. Beyond that, there is an art to Morse code, a rhythmic, musical fluidity to the sound. Sending and receiving it can have a soothing or meditative feeling, too, as the person focuses on the flow of individual characters, words and sentences. Overall, sometimes the simplest tool is all that's needed to accomplish the task.

(Editor's note: Part one of this article appeared in the June issue of Cracklin Static.)

Eddie King is a Ph.D. student in Electrical Engineering at the [University of South Carolina](#)

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NAME THAT RIG

(Answer on page 14)



NVCON BALANCE SHEET

Income				
	Registration		\$2,018.90	
	Raffle		\$2,890.77	
	Club Sales		\$579.38	
	Swap Meet		\$225.69	
	EM B'fast		\$544.46	
	Vendor Booths		\$3,965.58	
	Ham Class		\$1,087.76	
	Friday Reception		\$500.00	
	Saturday Reception		\$425.00	
				\$12,237.54
Expenses				
	Boomtown	Rooms and A/V Balance	\$4,327.21	
	Fedex Office	Printing	\$257.12	
	Barry Bettman, K6ST	Break Room Food	\$200.00	
	HRO	NVCON Raffle Prizes	\$1,821.80	
	TicketPrinting.com	Raffle Tickets & wrist bands	\$261.37	
	Anthony Marcin,	Tables Cards, VistaPrint	\$48.35	
	Reno Celebrations	Tables & Drapes	\$3,378.70	
	Boomtown	Rooms and A/V Deposit	\$3,150.00	
	Pay Pal	Chip Card Reader	\$112.20	
	David Book	Ham Class	\$236.43	
	NA Embroidery	Staff Hats	\$250.80	
				\$14,043.98
Net Proceeds				(\$1,806.44)

Submitted 7-21-19 by Bill Jones, AE7OX Treasurer, SNARS

SHORT TAKES

HAM RADIO NIGHT, AUGUST 7, 2019

There will be discussions on the use of PL tones not only for repeater access but for noise reduction and on simplex frequencies. There may be some DMR programming help available at that time.

CONTEST CALENDAR

Some interesting contests are popping up in August. The 10GHz and Up contest is an interesting one to get you on a mountaintop on the 17th and 18th. Break out your dishes and real microwave gear and schedule some times to try to hit others out of the area. The RTTY portion of the ARRL Rookie Roundup is also on the 18th, and if you are new to RTTY, or licensed in the last 3 years, this is a good way to get started. There are dozens more this month and you can get more information at <https://www.contestcalendar.com/contestcal.html>

DX

There are some interesting ones on the air at this time. <https://www.ng3k.com/Misc/adxo.html> has a good list!

(Editor's note: see page 11!)

Jim, W6US

APOLOGY

To Jon Fox, KF7KTC, in the Field Day edition of Cracklin Static, I mistakenly identified the Phillipine stew (Sinigang na Baboy) Jon made as a goat stew, it was actually pork...Sorry Jon! Howie WB2AWQ

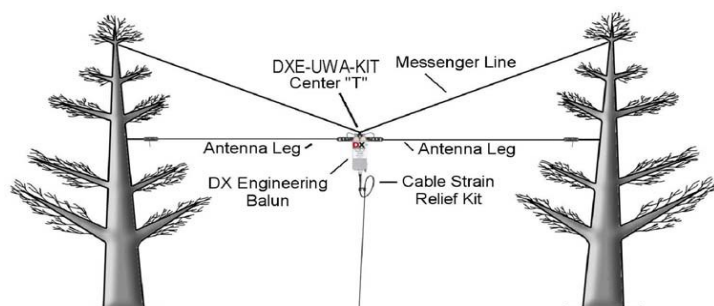
W7SSB's FUN STUFF

Quite a few hams come into the shop and ask for a **balun** without knowing what a **balun** is or which one is right for their particular needs!

A **balun** is a type of transformer: it's used to convert an unbalanced signal to a balanced one or vice versa. **Baluns** isolate a transmission line and provide a balanced output. A typical use for a **balun** is in a television antenna. The term is derived by combining **balanced** and **unbalanced**.

In amateur radio antenna applications, the primary purpose of a **balun** is to impede (choke) the flow of Common Mode Current (CMC) on the transmission line.

- For coax feedlines, CMC only flows on the outside of the coax shield. It does not flow inside the coax.



DXE-BAL050-H05-A, DXEBAL050-H10-A, or DXE-BAL050-H11-C for resonant antennas, depending on power levels.



- For open wire feedlines, CMC can flow on either or both of the lines.

DXE-BAL050-H10-AT or DXE-BAL050-H11-CT Current Balun for non-resonant antennas, depending on power levels

Although a CMC choke for open wire looks different than a CMC choke for coax, both do the same thing (impede the flow of CMC).



This helps avoid the disadvantages caused by having too much CMC on the feedline. For information on these problems, see: [Common Mode Chaos](#)

If you don't know what Common Mode Current is, NOW is the time to find out, because it is very important to understand this when trying to optimise the performance of your station.

For more information on this, again see: [Common Mode Chaos](#)



A **BALUN** IS ALSO sometimes used as an impedance transformer. Normally a **balun** has a 1:1 impedance ratio between its input and output sides. By modifying the design of the **balun**, it is possible to have other impedance ratios. Examples: 4:1, 6:1, 9:1, etc. In these cases, we also refer to these as Transmission Line Transformers (TLT).

There are many companies that make and sell **baluns**. Just like any other product there are the good the bad and the ugly ones! It depends on design and quality of products used in manufacture!

<https://www.dxzone.com/catalog/Manufacturers/Baluns/>

Jerry Sevick (W2FMI SK) was known as the world's leading authority on the subject of the transmission of radio communication and is renowned for his research and publications related to short vertical antennas and transmission line transformers. His books can be found online!

W8JI has written an excellent paper on selecting baluns. See: <http://static.dxengineering.com/pdf/Choosing%20the%20Correct%20Balun.pdf>

I hope this article will help you out on when choosing a **balun** for your next antenna project!

Stay tuned!
Don W7SSB

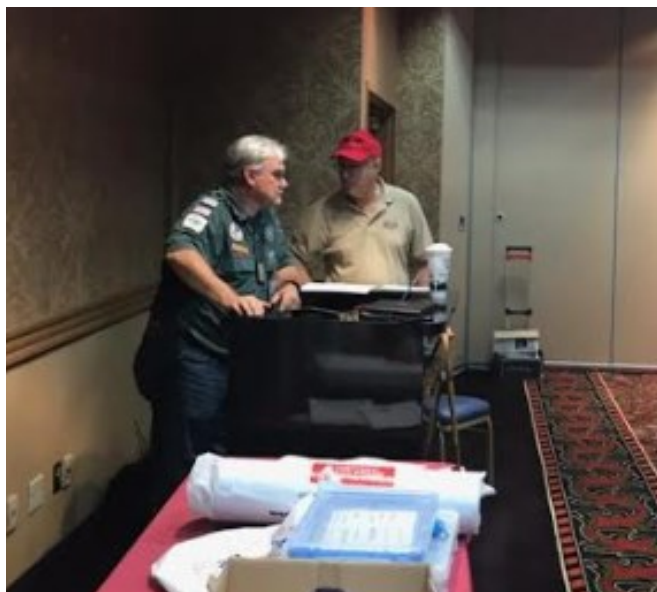
YOUTH INVOLVEMENT

Youth Activities: Nevada State Amateur Radio Convention 2019



NVCON offered Radio Merit Badge to 2 dozen scouts at NVCON 2019

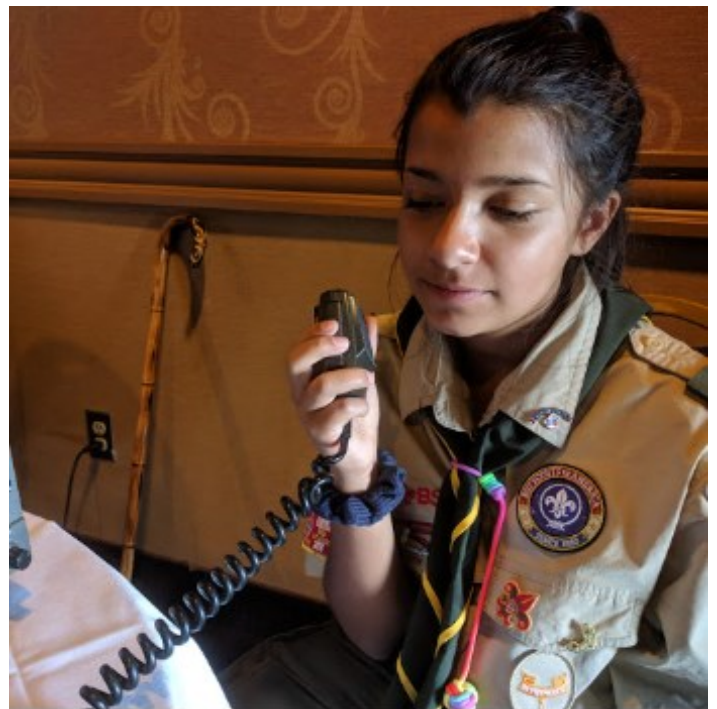
<https://meritbadge.org/wiki/index.php/Radio>



The national association for amateur radio, ARRL (American Radio Relay League) arrrl.org Nevada Section Youth Coordinator, Barry Bettman, K6ST and the Boy Scout - Radio Merit Badge Counselor Shawn Stoddard KG7VUI, had plenty of ham radio activities for youth at NVCON.



Barry K6ST SNARS Noon Net Control elmering a Youth (male) Guest Net Control Friday, July 19, 2019 NVCON



SNARS Noon Net Youth (female) Guest Net Control Friday, July 19, 2019 NVCON



Radio Merit Badge class for 24(scouts and some non-scout youth) Friday July 19, 2019 NVCON



Scouts sitting in on the "Summits on the Air (SOTA)": forum on Friday afternoon of NVCON and being invited to a joint SOTA operation and Scout hike together in the future.



Three Fox Hunts in total plus a tour of the swap meet. The kids had an awesome experience and expressed interest in doing more.



Youth experiencing ham radio at one of the NVCON exhibitors



Fox Hunting with Scouts on Saturday, July 20th, 2019 at NVCON

FUN STUFF FOR AUGUST

August has five ARRL or NCJ-sanctioned events (shown in bold). Here are some of August's better contests:

3 Aug 0001 to 4 Aug 2359 28 10-10 International Summer Contest, SSB www.ten-ten.org

3 Aug 1800 to 4 Aug 0559 1.8-28 North American QSO Party, CW www.ncjweb.com

3 Aug 1800 to 4 Aug 1800 222 and up ARRL 222 MHz and Up Distance Contest CW Ph Dig www.arrl.org/222-mhz-and-up-distance-contest

17 Aug 0600 to 18 Aug 2359 10 GHz light ARRL 10 GHz and Up Contest CW Ph Dig www.arrl.org/10-ghz-up

17 Aug 1800 to 18 Aug 0559 1.8-28 North American QSO Party, SSB www.ncjweb.com

18 Aug 1800 to 18 Aug 2359 3.5-50 ARRL Rookie Roundup, RTTY www.arrl.org/rookie-roundup

24 Aug 0400 to 26 Aug 0400 1.8-28 Hawaii QSO Party CW Ph Dig www.hawaiiqsoparty.org

24 Aug 1200 to 25 Aug 0300 1.8-50 W/VE Islands QSO Party CW Ph Dig usislands.org

Note the last two - our Pacific neighbors are always around during our contests, time to return the favor in the Hawaii QSO party.

The W/VE Islands contest (different from the IOTA which was just held on July 27-28) has some interest. Believe it or not, there are TWO islands in Washoe county on the USIslands list: Anaho in Pyramid Lake, and - yes - Wingfield Park right here in downtown Reno. While Anaho may be out of reach because it's on tribal land, Wingfield could be interesting for someone to activate. Any takers?

If you're not into contests, there's always DX to chase! August's good stuff is scattered around the globe. Some of the better DX operations coming up in August:

Jul 04 to Aug 08 **Corsica TK**

Jul 06 Aug 09 **Palestine E44WE**

Jul 20 Aug 03 **Vietnam XV9DXB**

Jul 21 Aug 03 **Vanuatu YJ0GA**

Jul 23 Aug 05 **Gambia C5SP**

Jul 31 Aug 07 **Maldives 8Q7SU**

Jul 31 Aug 07 **St Paul I CY9C**

Aug 01 Aug 10 **Lord Howe Is VK9APX**

Aug 03 Aug 17 **Aland Is OH0UDG**

Aug 03 Aug 17 **Madagascar 5R8PX**

Aug 06 Aug 18 **Maldives 8Q7GB**

Aug 10 Aug 18 **St Pierre & Miquelon TO5M**

Aug 17 Aug 24 **Market Reef OJ0O**

Aug 23 Sep 02 **Solomon Is H44**

Aug 31 Sep 17 **Burundi 9U3TMM**

See <https://www.ng3k.com/Misc/adxo.html> for a complete DX listing

FT4 JOINS DIGITAL MODES ON LoTW

Received via RadioPack from ARRL:

ARRL's Logbook of The World (LoTW) has been updated to embrace FT4 contacts for the Digital Worked All States award — one of many digital WAS Endorsements. This follows the WSJT-X Development Group's July "general availability" release of WSJT-X 2.1.0. No other endorsements are under consideration at this time.

LoTW users are currently able to upload all FT4 contacts they have made. While the FT4 Digital WAS Award Endorsement functions are now active, award processing and fulfillment remain pending the availability of the new endorsement sticker. Watch ARRL News for this and other updates.

HAPPY 150! THE HIRAM PERCY MAXIM BIRTHDAY CELEBRATION!

From the ARRL website:

This year marks the 150th anniversary of the birth of the League's first president and cofounder, Hiram Percy Maxim (HPM), W1AW. HPM was born on September 2, 1869.

As we have done with earlier birthday milestones, ARRL is again holding an operating event to celebrate HPM's legacy.

The 9-day event begins 0000 UTC August 31 and runs until 2359 UTC September 8, 2019.

See <http://www.arrl.org/hpm150-birthday-celebration> for full details.

PHOTOS WANTED!

If you attended NVCON 2019 and took photos, I'd like to get copies, to be included as part of a short special Cracklin Static about NVCON. Contact me direct - holden7471@msn.com or 775-846-6820. Thanks!!! Howie WB2AWQ

ARES NEWS

This frequency chart is what we use from the National Weather Service when NWS activates SKYWARN. With our severe thunderstorms these are the frequencies we will use. There is a SKYWARN Class scheduled for Friday at NVCON.



WCARES®



COUNTY	MEMORY	REPEATER	PL	NOTES:
Alpine, Ca	13	147.330	123.0	Leviathan, Minden, Carson, Alpine Co
	4	146.940	123.0	Snow Valley Pk Covers S&E Reno, Washoe, Carson, Minden, and Whole Lake Tahoe
	10	147.240	100.0	Heavenly Valley Heavenly Vly, Most Lake, into Sacramento
	11	147.270	123.0	McClellan Pk Covers Carson, Douglas, Dayton, Silver Springs
	2	146.865	123.0	Leviathan Covers Alpine and Douglas
Churchill	7	147.150	123.0	Mt Rose Covers S Reno, Washoe, Carson, Douglas, S&W Lake Tahoe
	9	147.210	100.0	Peavine Pk
	6	147.030	123.0	Virginia Pk Mt Rose System
	8	147.180	107.2	Virginia Pk Covers Reno, Spanish Springs, Churchill Co, Gerlach, Black Rock, Susanville (scratchy)
	5	146.970	100.0	Eagle Covers Silver Springs and Fallon
Carson City	1	146.610	123	Ophir Pk (Dayton, Stagecoach, Silver Springs, Fallon, Lovelock)
	4	146.940	123	Snow Valley Pk Covers S&E Reno, Washoe, Carson, Minden, and Whole Lake Tahoe
	14	147.390	123.0	Ophir Pk (Dayton, Stagecoach, Silver Springs, Fallon, Lovelock)
	11	147.270	123.0	McClellan Pk Covers Carson, Douglas, Dayton, Silver Springs
Douglas	13	147.330	123.0	Leviathan Pk, Minden, Carson, Alpine Co
	11	147.270	123.0	McClellan Pk Covers Carson, Douglas, Dayton, Silver Springs
	10	147.240	123.0	Heavenly Valley Pk Heavenly Vly, Most Lake, into Sacramento
	2	146.865	123.0	Leviathan Covers Alpine and Douglas
Eldorado, Ca	10	147.240	123.0	Heavenly Valley Pk Heavenly Vly, Most Lake, into Sacramento
Lassen, Ca	8	147.180	107.2	Covers Reno, Spanish Springs, Churchill Co, Gerlach, Black Rock, Susanville (scratchy)
Lyon	5	146.970	100.0	Lahontan (Silver Springs, Fallon)
	1	146.610	123.0	Ophir Pk (Dayton, Stagecoach, Silver Springs, Fallon, Lovelock)
	7	147.150	123.0	Mt Rose (Silver Springs, Yerington, Smith Valley)
Mineral				
Modoc, Ca				
Mono, Ca				
Nevada, Ca	7	147.150	123	Mt Rose Covers S Reno, Washoe, Carson, Douglas, S&W Lake Tahoe
Pershing	6	147.030	123	Virginia Pk Mt Rose System
	8	147.180	107.2	Virginia Pk

Pershing	6	147.030	123	Virginia Pk Mt Rose System
	8	147.180	107.2	Virginia Pk
Placer, Ca	10	147.240	123	Heavenly Valley Pk Heavenly Vly, Most Lake, into Sacramento
Plumas, Ca	7	147.150	123	Mt Rose Covers S Reno, Washoe, Carson, Douglas,S&W Lake Tahoe
	9	147.210	100	Peavine Pk
Sierra, Ca	7	147.150	123	Mt Rose Covers S Reno, Washoe, Carson, Douglas,S&W Lake Tahoe
	13	147.330	123	Leviathan Pk, Minden, Carson, Alpine Co
Storey	7	147.150	123	Mt Rose Covers S Reno, Washoe, Carson, Douglas, S&W Lake Tahoe
	9	147.210	100	Peavine Pk
	6	147.030	123	Virginia Pk Mt Rose System
	8	147.180	107.2	Virginia Pk
	1	146.610	123	Ophir Pk (Dayton, Stagecoach, Silver Springs, Fallon, Lovelock)
	14	147.390	123	Ophir Pk (Dayton, Stagecoach, Silver Springs, Fallon, Lovelock)
		146.850	123	Storey County ARES
Washoe	7	147.150	123	Mt Rose Covers S Reno, Washoe, Carson, Douglas,S&W Lake Tahoe
	9	147.210	100	Peavine Pk
	6	147.030	123	Virginia Pk Mt Rose System
	8	147.180	107.2	Virginia Pk
	1	146.610	123	Ophir Pk (Dayton, Stagecoach, Silver Springs, Fallon, Lovelock)
	14	147.390	123	Ophir Pk (Dayton, Stagecoach, Silver Springs, Fallon, Lovelock)
EchoLink and IRLP	3	146.895	100	KA7ZAU Peavine Pk (Node #357948 (#73 to clear #15 to activate #73 when done))
	12	147.300	123.0	Grand Sierra Resort (Node #7873)
DMR		TALK GRPS		SNARS and/or NEVADA

Yellow highlighted are linked repeaters

ANNUAL COMMUNICATIONS EVENTS CALENDAR 2019

Carson Valley, Tahoe, Reno, Plumas County

Revised 6-29-19

EVENT 2019	DATE	DATE END	SPONSOR/ORGANIZER	COORDINATOR	CONTACT
Running With the Bears	8/17/19		Plumas ARC	Larry Trotter KI6YUK	dltrotter@sbcglobal.net
Vegas to Reno Off Road Race	8/14/19	8/17/19	Best in the Desert Racing Assn	Keith KC7HTK	kc7htkeith@hotmail.com
Tour De Tahoe	9/8/19		Tahoe Amateur Radio Assn	Paul Gulbro, WA6EWV	wa6ewv@juno.com
Reno Air-Races	9/8/15	9/15/19	WC-ARES	Bob Miller WA6MTY	wa6mtty@gbis.com
Bear Growl Gravel Grinder	9/15/19		Plumas ARC	KJ6CUG	dltrotter@sbcglobal.net
Edible Pedal 100	9/15/19		Sunrise Rotary Club	Bob Miller WA6MTY	wa6mtty@gbis.com
Grinduro SBTS	9/28/19		Plumas ARC	Larry Trotter KI6YUK	dltrotter@sbcglobal.net
Nevada Day Parade	10/26/19		NV AREA NW DEC	John Abrott KD7NHC	jabrott77@gmail.com , cell 775 790-1739
Turkey Trot	11/28/19		WC-ARES	Bob Miller WA6MTY	wa6mtty@gbis.com

NOTE: Plumas ARC always have a need for operators. Go over to some beautiful country and help out the Plumas Amateur Radio Club

August 17 is the next Technician and General test review. Everyone attending MUST register on www.snars.org/oneday.

The Edible Pedal 100™ is a recreational yet challenging charitable bike ride that showcases Nevada. The beautiful ride routes feature outstanding locally sourced food at the ride stops and post-ride barbecue. The ride partners with local bike communities, youth groups, and food and beverage producers. The mission is to support the local economy by drawing out-of-town bicycle riding enthusiasts in addition to local riders, to the area and highlighting local businesses. As always Amateur Radio is primary communication between ride directors and Ride Stop captains and between ride directors and the Support-And-Gear (SAG) vehicles that respond to and locate riders that need medical or mechanical attention. SAG wagons can transport the rider and bicycle to the nearest Ride Stop where SHERPAs will transport riders and bicycles back to Bowers Mansion. Also, we will have the Moto-Marshalls (motorcycle volunteers) that ride the route, and they are to check in when they arrive at your Ride Stop so NCS can keep track of where they are. If you would like to help with this event let me know. You can enjoy the BBQ after the ride is over. www.ep100.com

ALSO if you or any of your friends (even NON- Hams) would like to attend the Reno Air Races Sept 12-15 FREE (Almost a \$500 value) and can afford three 5 hour shifts to help with security, anytime between Sept 8-15 then contact me at wa6mtty@wcares.us and I will put you on the schedule.

Bob Miller WA6MTY

Emergency Coordinator for Washoe County

Amateur Radio Emergency Service

775 843-5952 www.wcares.us wa6mtty@gbis.com

NAME THAT RIG (from page 6)

In late 1959 **Heathkit** offered their first all-solid-state communications receiver kit, the **Mohican GC-1**. It was one of the last of the "indian"-named units Heath produced, and a very popular radio. The GC-1 was a 10 transistor general coverage unit covering 550Khz to 32 Mhz in five bands, including bandspread over the current at the time 6 MF and HF Amateur bands, 160 through 10 meters. It was designed with ruggedness in mind, and the essential controls included RF gain, bandspread tuning, noise limiter, and BFO control. While not designed solely with the Amateur in mind, it did serve some hams as their main or backup HF receiver. All the solid state devices were germanium transistors, as the better silicon devices had yet to be available at a reasonable price. The GC-1 was upgraded to the GC-1A in 1962, with improved audio and better stability at higher frequencies, and was available until 1968. Price ranged from \$110 at its inception, to \$90 at the end of the run. It was considered "portable", at 17 lbs including batteries. It is widely sought after by collectors.



Board of Directors Meeting Minutes

July 10, 2019 - 6:00 PM

Chin Chin, Sparks
222 Los Altos Pkwy, Sparks, NV 89436

1. Call to order and roll call at 6:00 PM

Anthony Marcin, W7XM	NP	Barry Bettman, K6ST	P	John Miller, N7JDM
Bill Jones, AE7OX	P	John Byerly, N7ROJ	P	Wes Vick, KG7QXE
Jim Shepherd, W6US	P			
Doug Edmondo, W7DBE Rec. Sec.	P	Bill Nichols NN7K	V	

2. Approval of Minutes

Approval of minutes of the June Board of Directors Meeting. Board motioned and approved
Approval of Agenda. Boeard Motioned and approved

3. Reports

President's Report

Successful Field Day.
NVCON is coming along well

Secretary Report

No report

Membership Coordinator

No report from Kim.

Treasurer

Financial Report. Financial statements sent around for board member review. Total funds are \$24,710
Checking: \$6,310 Savings: \$8,586 Paypal: \$2,352 Conv: \$1,955 Self-Ins: \$5,508

Technical Team - Report

Will be looking for help doing maintenance on lower Pevine

Control Operators / Trustee

Operator Training Class?

Events

Night Security is an issue
Discussion on credit card readers, Tony is providing tablets for transactions.

Education Activities

Status Report – Looking at doing the Scout merit badge and a Fox Hunt during NVCON.
PIO staff (Greg and Kathy) are assisting
Barry is working with Eric on the website.

Noon Net

Status Report - Net Manager, Dave Miles has resigned. Looking for another female Net Control Operator.

New Business

Discussion on a Picnik August 24th. Will poll membership for interest.

Public Comments

Bill concerned about NVCON budget – NO SNARS FUNDS ARE USED.
Discussed testing at NVCON – board is setting aside one room adjacent to the class room for testing.

Adjournment of the board of directors

Next Meeting will be August 14th, 6pm at Chin Chin
Call for Adjournment. Board motioned and adjourned.